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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,612	05/18/2004	En-Hsiang Yeh	MTKP0064USA	3611
27765	7590	11/01/2005	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION			FLANAGAN, KRISTA M	
P.O. BOX 506			ART UNIT	
MERRIFIELD, VA 22116			PAPER NUMBER	
			2817	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/709,612

Applicant(s)

YEH, EN-HSIANG

Examiner

Krista M. Flanagan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-20 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-14 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 18 May 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because in figure 2, it is believed that RB1 should be RB<sub>1</sub>.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 2 – RB<sub>h</sub>; figure 4 – RB<sub>3</sub> and RB<sub>4</sub>; figure 5 – RB<sub>3</sub>; figure 6 - RB<sub>3</sub> and RB<sub>4</sub>; figure 7 - RB<sub>3</sub> and RB<sub>4</sub>; figure 8 – SI<sub>5</sub>, RB<sub>5</sub>, SI<sub>6</sub>, RB<sub>6</sub>; figure 10 – 98 and 100.

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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*Specification*

4. The disclosure is objected to because of the following informalities: It is the examiner's belief that on page 8, paragraph 0029, line 14 "Q4-Q9" should be – Q4-Q10.

Appropriate correction is required.

*Claim Objections*

5. Claims 16, 19 and 20 are objected to because of the following informalities: line 2 of each claim there is a space needed between "15" and "wherein". Appropriate correction is required.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3, 7 and 10-13 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,710,662 to Wang.

8. Regarding claims 1, 7 and 12, Wang discloses an amplifier with improved linearity, which comprises a plurality of transistors, 31-33, where the transistors are connected to each other to produce a plurality of common sources and common drains (figure 4, reference characters 31-33 and column 2, line 63 - column 3, line 9). The transistors are operated individually according to the bias voltages, Bias A-C, applied through the bias terminals (See figure 4 and column 3, lines 53-62). Another output

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transistor, 40, is connected in cascode with its source connected to the common drains and its gate connected to another bias terminal (See figure 4, reference character 40 and column 3, line 65-column 4, line 7 where the source is known to be the lowest impedance port).

9. Regarding claims 2 and 13, which inherits all of the limitations of claim 1, Wang discloses an amplifier wherein the transistors are turned on and off according to the bias voltage being applied where the bias voltage acts as a control bit (See figure 4 and column 3, lines 53-62).

10. Regarding claim 3, which inherits all of the limitations of claim 1, Wang discloses an RF choke, L, electrically coupled to the output transistor, 40 (See column 3, line 65-column 4, line 7).

11. Regarding claim 10, which inherits all of the limitations of claim 1, Wang discloses an amplifier comprising MOS transistors (See figure 4).

12. Regarding claim 11, which inherits all of the limitations of claim 1, Wang discloses an amplifier, which is widely used in electronic devices particularly wireless communication systems (See column 1, lines 26-31).

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 8, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,710,662 to Wang.

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15. Regarding claims 8, 9 and 14, Wang discloses an amplifier with improved linearity, which comprises a plurality of MOS transistors. Wang fails to disclose an amplifier with improved linearity, which comprises a plurality of BJTs. However, it is well known in the art to interchange MOS transistors with BJTs in absence of any unexpected results.

*Allowable Subject Matter*

16. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. Claims 15-20 are allowed. Prior art fails to disclose a multiband low-noise amplifier comprising a plurality of input and output differential amplifiers being operated in a plurality of band modes.

*Conclusion*

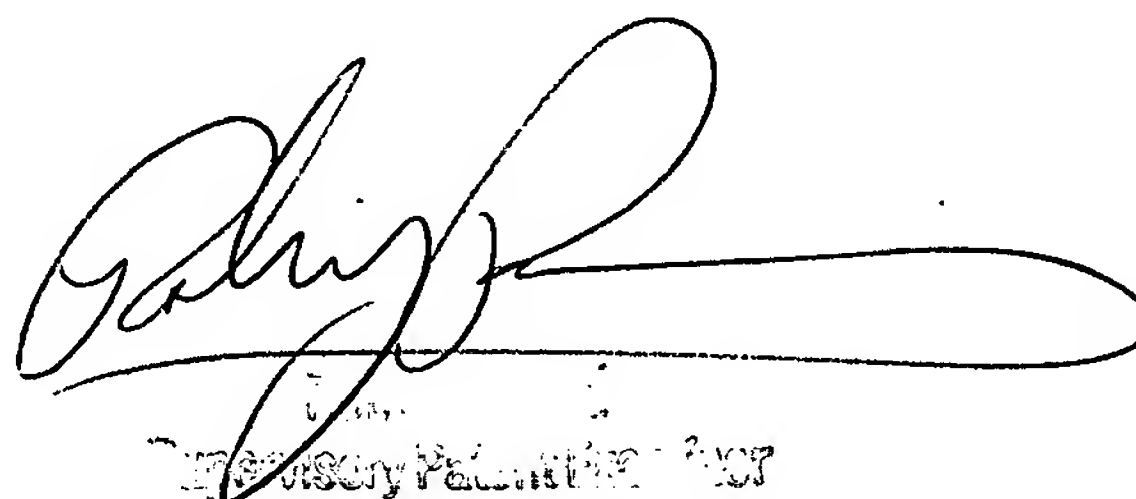
18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krista M. Flanagan whose telephone number is (571) 272-2203. The examiner can normally be reached on Monday - Friday, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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